

Introduction

Standing here before you today, a couple of sayings come to mind. I think neither one is quite true.

First, it is said that once you leave home, you can't go home again. But I have enjoyed the warmth of the desert here in Arizona where I was born and the town where I went to college. In fact, it was exactly 17 years ago at this resort where I bid farewell to WACA after having served for 5 years as its Exec Director. So I can say that it is good to be home again, and good to be here with you.

It is also said that where one stands (on an issue), depends a great deal on where one sits. Here again, I must take issue. I consider myself a life-long Aggie. I have worked the fields and even now, my husband and I run a hazelnut farm in Oregon. I have been a regulator, represented industry, served as a CEO of a pesticide manufacturer and now have returned to government, the much-loved federal government I might add.

But while I have sat in a lot of different chairs, I have not changed where I stand: I continue to believe that the industries represented here today are important and valuable partners in helping keep western agriculture globally competitive and environmentally sound.

Context: Constant Change

But if I have not changed, the world sure does seem to be changing around me. Today I'll share with you, EPA's perspective on how my agency's regulations and programs affect you. As I do so, one can't ignore the enormous changes facing western agriculture. And so much is increasing in intensity: international trade; consumers' sustainability demands, questions about climate change and the debate surrounding the farm bill.

Today I'll share some insights you might find helpful in creating value for your customers and the environment.

First, a little known fact, EPA has had a Counselor to the Administrator for Agricultural Policy since 2000 and each region has dedicated staff, many recruited specifically from agriculture, who serve as an interface between the environmental regulatory world and the agriculture community.

Did you know EPA also has an agriculture compliance assistance center? We do. So if we are imposing change on agriculture, we are also dedicating resources to smoothing the transition.

But I want to emphasize that even with all that, the resource investment in agriculture as a percentage of agency resources is small—at least until something goes awry.

Region 10 covers the Northwest and Alaska and to put pesticides and fertilizers into perspective, a little over 1% of my 660 staff are proactively involved in the regulation of these inputs. My friend and fellow Regional Administrator, Wayne Nastri Regional Administrator of Region 9, has quite a few more than that, but still a relatively small percentage of his people are involved specifically in pesticides and fertilizers.

This fact may cause you to breathe a sigh of relief, but hang on. When the pesticide or fertilizer industry has issues related to the Clean Air Act, Clean Water Act, RCRA or Superfund, then the numbers and focus grow by orders of magnitude. We have a fertilizer related issue in southeastern Idaho which involves about 10% of my staff touching on the statutes I just named.

So with that as the context, let me focus in a two areas where EPA programs engage the pesticide and fertilizer industries: the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Clean Water Act.

FIFRA

First, FIFRA. Even in this very familiar territory, the regulatory arena is changing. The Food Quality Protection Act has changed the very nature of the pesticide program. Chemicals are evaluated on very different criteria, over much shorter timeframes. In addition, over the last decade, the pesticide program has evolved to include a much more robust and effective stakeholder process.

So, for organophosphates, for instance, registration decisions included several mitigations to reduce risk, including limitations on rate and timing of applications, increased re-entry intervals, and wider buffer zones for sensitive areas such as homes and waterways, but not the complete elimination that the industry and I personally originally feared.

I want to share Assistant Administrator Jim Gulliford's vision for the Office of Pesticide Programs:

To accelerate the pace of our work while promoting safe use of pesticides (and chemicals).

This will include:

1. Ensuring safe pesticides through timely registration of safer and reduced risk pesticides.
2. Successful implementation of the programs to evaluate older pesticides -- reregistration and the "registration review" program.
3. Integrating endangered species protection and the evaluation of potential endocrine disruptors into our review processes.

To name a few individual regulatory actions:

Rodenticide Risk Management
n-methyl carbamate cumulative risk assessment (which includes aldicarb, carbaryl and other high profile chemicals)
Wood preservative registration decision
and Spray Drift.

I want to highlight one other individual action: container recycling. This one is near and dear to me not only because I was part of the effort that began in the state of Washington to get voluntary recycling going, but also because it is a good example of the industry being proactive about environmental protection.

Over time, however, the cohesiveness within the industry has eroded with newer players unwilling to join in the voluntary program. This led to an effort, actively supported by industry leaders, to make the program mandatory. The agency hopes to make a decision

on the path forward soon—so if you care about the outcome, I suggest you get involved with CropLife..

As I look at it, actions and decisions made this container recycling example impact other statutes important to the environment and public health--including the Clean Water Act—to which I will now turn.

Clean Water Act

The Clean Water Act requires states to identify waters that do not meet water quality standards and to develop Total Maximum Daily Loads or TMDLSs that analyze what is causing the impairment and the sources contributing to it. [Slide 1-- map of R10 impaired waters.] This slide gives you a picture of the impaired water bodies (in red) in the Pacific Northwest, now those of you in WA don't rest too easy since WA just reports the dots where sampling took place and in reality WA resembles OR and ID.

Talk to any municipal official in the West and one of the biggest issues they face in complying with Clean Water Act permit requirements is meeting water quality standards for phosphorous and nitrogen that apply to their wastewater treatment plants. Because they are required by law to get into compliance, which can cost millions of dollars, they tend to ask who else is contributing to the problem. The answer very often involves non-point sources—often your customers.

In both my own office in Region 10 and Region 9 which includes Arizona, Nevada, California and Hawaii, agriculture is known to contribute significantly in some areas to water quality impairments. And while the majority of these waters are listed because of temperature and sediment problems, a significant subset of agriculture-related impairments are due to nutrient and pesticide loadings. The list of impaired streams in Idaho illustrates this point succinctly. [Slide 2]

While the number of waters listed as impaired by pesticides is relatively small and the listings concern primarily legacy pesticides, be careful about what you conclude from this. EPA does not have now, but is developing, water quality standards for a large variety of pesticides that are currently in use. And while we are confident that today's pesticides are much less risky to humans, they may still impact aquatic life. For that reason, as EPA develops these new standards, waters will be monitored for exceedances and new pesticide listings may result.

Regardless of whether or not your industry is directly connected to these impairments, your customers and clients are affected by EPA and state environmental agency efforts to reduce loadings through the non-point source program, TMDL implementation projects, or state-level action.

In addition to knowing what waters are impaired and the sources that cause the problems, we also know that one excellent way for those nonpoint sources to help address impairments is by providing stream buffers.

According to the National Resource Conservation Service (NRCS):

“Strategically placed buffer strips in the agricultural landscape can effectively mitigate the movement of sediment, nutrients, and pesticides. When coupled with appropriate upland treatments, including crop residue management, nutrient management, integrated pest management, winter cover crops, and similar management practices and technologies,

buffer strips should allow farmers to achieve a measure of economic and environmental sustainability in their operations. Buffer strips can also enhance wildlife habitat and protect biodiversity."

NRCS has determined that properly installed and maintained, buffer strips have the capacity to remove at least 75 percent of the sediment and at least 50 percent or more of nutrients and pesticides that would otherwise runoff into our streams and rivers.

But buffers are only part of the story. There are a variety of other practices that contribute to protecting water quality. Here's a list of NRCS-approved practices that EPA is supporting for use in implementing a TMDL for the lower Boise River in Idaho. [Slide 3--BMPs]

It includes such practices as applying Polyacrylamide which binds the soil, thereby reducing runoff; developing filter strips, (a simplified buffer); and more efficient water delivery systems such as Sprinklers and Microirrigation to name just a few.

What you may be able to see reflected on this slide is that each of these techniques has been evaluated to determine how well it removes phosphorus, how long it is effective and the scientific uncertainty about its effectiveness. I am going to come back to this TMDL effort in a moment.

Creative problem-solving

I want to talk now about EPA's commitment to non-regulatory, collaborative efforts in its box of tools for environmental protection. An example is the Strategic Agriculture Initiative, which provides grants to fund projects to demonstrate agricultural practices that reduce environmental risks.

Candidly, I was skeptical of this program since I felt, as a former IPM major that we already had completely utilized IPM approaches (scouting, etc.). Well, I was wrong.

In 2005, EPA Region 10 awarded a Strategic Ag Initiative Grant through an American Farmland Trust. The grant funded the design, demonstration, and evaluation of snap bean field scouting protocols and monitoring for mold. Through this effort, NORPAC, a vegetable producer/processor, in partnership with Oregon State University, monitored to predict fields at high risk to pest damage and communicated with growers on control options.

A 75% reduction in pounds of carbaryl insecticide applied to fields was recorded from 2004 to 2006 on over 10,000 acres in the Willamette Valley. So let's say there may well be some low hanging fruit or vegetables out there (so to speak) for retailers to help in reducing grower input costs. I'd be happy to talk to anyone about this later.

A second creative approach involves Water Quality Trading under the Clean Water Act to restore impaired waters. That map of red I showed you earlier.

Generally, water quality trading involves a regulated entity, such as a municipal waste water treatment plant, that faces relatively high pollutant reduction costs, negotiating with nonregulated sources, or more lightly regulated sources (such as farmers), to achieve the required pollutant reduction in a less costly manner. In that way, trading reduces the cost of compliance while achieving at least equivalent environmental benefits. Let me explain further with a couple of examples.

Tualatin River

The Tualatin River Basin is an agriculturally dominated basin located in Oregon, just southwest of Portland. [See Slide 4--Tualatin basin: The map shows the developed area in red, Ag areas in yellow, Forested in green] The two major wastewater treatment facilities in this basin are operated by Clean Water Services which is Oregon's largest wastewater utility. It serves about 450,000 people in and around Portland. The Tualatin River TMDL requires stream temperature reductions of 1.5 degrees F.

In exploring its options to meet this target, CWS determined that the only technology-based option was refrigeration which would cost \$150 million to install and \$2 million in annual operation costs. CWS began exploring other options in collaboration with the Oregon Department of Environmental Quality and EPA. The most cost effective options were flow augmentation during critical flow times of the year (the late summer and early fall) and stream shading. By adding cooler stored water, CWS would be able to reduce stream temperatures. But augmentation alone wouldn't meet the TMDL target.

The TMDL study showed that by blocking sunlight to the Tualatin and its tributaries, we could prevent solar radiation - heat- from getting to these waters thereby reducing stream temperatures. That study also calculated how much shade would be needed and how many years would be required for newly planted buffers to mature into effective ones. As CWS did not own the 30 plus miles of stream bank necessary to achieve the targeted temperature reduction in a timely way (which we decided was 10 years), it needed partners--land owners willing to set aside their lands near the stream banks which could be converted from bad riparian buffers like this slide [Slide 5] to good ones. [Slide 6]

In 2005, CWS received permission from the Oregon Department of Environmental Quality to use trading to meet temperature reduction requirements in its NPDES permit. CWS's two wastewater treatment plants discharge excess (heat) during the summer months. To offset, or trade, the excess load, CWS buys "credits" from farmers, small woodland owners and others by paying a portion of the cost to plant trees in the riparian areas that will shade streams, essentially creating "shade credits." Creative and remember when I talked about "buffers" riparian areas done right will help with pesticides and fertilizer runoff too.

Lower Boise River

An even more ambitious and complex water quality trading program is being developed to address the impaired waters of the lower Boise River in Idaho. I showed you the slide of the best management practices a moment ago. Now I want to tell you more about their relevance to trading.

As in the Tualatin, the municipalities that discharge to the lower stretches of the Boise River are extremely concerned about the very high cost of complying with water discharge permits. They looked at the agriculture's contribution and became interested in doing trading like Tualatin.

But this time rather than temperature, the impairment is phosphorus, and the solution in this arid climate cannot focus on trees. Also, in contrast to the relatively easy analysis and simple transactions involved in negotiating riparian buffers, this effort is much more complex.

The critical mechanism for unraveling this complexity has been the development of "Parma Pounds," named for the small community located at the downstream boundary of this stretch of the Boise River. [Slide 7: This is the map of the lower Boise R.--Parma is on

upper left hand side]. It is the final point at which compliance with phosphorus must be met.

So what exactly is a Parma Pound? Let's look again at the list of practices. [Slide 8] A Parma Pound represents the amount of phosphorus loading that is prevented on a per-acre basis by implementing the various agricultural management practices shown on the screen. In short, the more these practices are implemented the less phosphorus ends up in the river.

So the work being done by government, in partnership with the farmers and municipalities in the lower Boise River area, involves developing technically sound ways to measure with relative precision how implementing specific practices at specific locations within the phosphorus TMDL boundaries will result in reduced nonpoint loadings.

The Technical Advisory Group, a group composed of stakeholder representatives along with Idaho Department of Environmental Quality staff, and supported as well by members of my staff, applied NRCS and Department of Agriculture guidance documents to determine how effectively these practices prevent soil loss, and for how long. They then correlated soil loss prevention with the amount of phosphorus in the soil to come up with an effectiveness percentage—which is discounted in accordance with the level of scientific uncertainty associated with each practice. The formulas they developed also take into account a variety of site specific factors that affect phosphorus delivery.

So a farmer who installs sprinklers, which is both highly effective and has a low level of uncertainty, generates X number Parma Pounds per acre. These Parma Pounds can then be purchased by a municipal point source to offset its load.

The cost of implementing even the most expensive of these agricultural practices is orders of magnitude less expensive than the cost of technologies the municipal plants might otherwise incur. For that reason, municipalities, who are required to reduce phosphorus loadings to meet the TMDL target, will tend to greatly prefer the option of buying Parma Pounds.

EPA has developed permit language that allows such transactions to be reflected in the municipalities' discharge reports, a permitting innovation that should help foster more active trading in Parma Pounds. One feature farmers should like is that they can implement the phosphorus reduction action now and sell their Parma Pounds whenever they believe the price is right. In this way, this TMDL framework creates the infrastructure for an efficient and effective free market solution to this complex phosphorus loading problem. I challenge WPHA to get involved and lend your knowledge of nutrients and their mobility to these efforts. This is but the first example which will be implemented in the West and elsewhere.

Market and Global Forces

Perhaps more important than any of the regulatory trends are the broader market forces that will affect agriculture in coming years. Certification efforts are moving into the private sector, with produce buyers and food processors adopting their own food safety and sustainability standards for their supply chains. The demand for organic and sustainable agricultural products is growing rapidly, and producers are moving to meet that demand, sometimes with an added impetus from regulation. WalMart, Sysco, Unilever, and others are now developing and implementing standards of sustainability that specify metrics such

as quantity and toxicity of pesticides, quantity of water and fertilizer use per acre or per pound yield.

I am not endorsing these standards as I expect there is much on which reasonable people might disagree when it comes to the care and scientific rigor underlying these standards; my point is that this social dynamic is one that is as important as what EPA or NRCS or any other part of government is doing.

New Opportunities

So as you can see, environmental, social, and economic conditions are changing and will change the way you do business.

This challenge presents opportunities for companies who can adjust their business model to new conditions. Plant nutrition or pest management has not traditionally been a focus of USDA-NRCS. Perhaps there are opportunities there for pest control advisors to become technical service providers under these programs.

PCA's could become ecological agriculture advisors. Companies that broaden their product lines to include not just inputs but knowledge-based tools and services, to support the changing needs of producers – these companies might find new markets both domestically and internationally. If we are entering into a less settled period, it may offer opportunities for those who are ready to meet change with change.

To Conclude

I said at the outset that I did not think it was true that where one sits determines their stand on an issue. But one thing I have learned from the many hats I have worn is that each opportunity puts you in a different vantage point. While my values and the science upon which I base my decisions remains the same, perhaps how I see things has varied. Maybe you could call it changes in my constituencies? As a regulator, I serve the public and the environment – all stakeholders -- that's everyone -- in as balanced a way I can. I have often thought that if CEO's could think a little more in these terms, we could all get a little closer in getting ahead of the curve as societal demands evolve on environmental and public health issues. And doing so might even contribute to better bottom-line results. Think about it and, if you'd like, give me a call.

Thank you.